

Article

Simultaneous Detection of *Listeria monocytogenes* and *Salmonella enteritidis* by Multiplex PCR Method in Poultry Meat Samples

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Article history: Received 21 September 2015, Received in revised form 9 November 2015, Accepted 1 May 2016, Published 11 May 2016.

Abstract: The aim of this study was to adapt the multiplex PCR technique on the rapid and direct identification of the presence of *Salmonella enteritidis* and *Listeria monocytogenes* in poultry meat samples. Specific primers for multiplex PCR amplification of the, *hlyA*, *actA*, *trtC* and *sdhA* genes were designed to allow simultaneous detection of *Listeria monocytogenes*, and *Salmonella enteritidis* respectively. The implementation of the standard technique using positive controls was successfully adapted. Following enrichment culturing for 20–24h at 37°C in TSBYE, the samples were subjected to for DNA extraction. Four fragments of the expected sizes were amplified in a single reaction and visualized in all of the samples inoculated with ≤ 10 CFUg⁻¹. Results can be obtained in approximately after 30 hours. The results of our research for simultaneous detection of *L. monocytogenes* and *S. enteritidis* in poultry meat samples showed that the mPCR is able to detect *Salmonella enteritidis* in 4.76% and *Listeria monocytogenes* in 6.34 % and both of